

COC#215

11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244  
East 11115 Montgomery, Suite B, Spokane, WA 99206-4776  
9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132  
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(503) 906-9200 FAX 906-9210  
(541) 383-9310 FAX 382-7588

## CHAIN OF CUSTODY REPORT

Work Order #: M109005 PIH0140

CLIENT: BRISTOL  
REPORT TO: ANNE KRANAWETTER  
ADDRESS: AMCHITKA, AK  
PHONE: 907-770-0974 FAX: 770-0975

INVOICE TO:  
BRISTOL

P.O. NUMBER: 21090

PROJECT NAME: AMCHITKA  
PROJECT NUMBER: 21090  
SAMPLED BY: ARK/KLP

### REQUESTED ANALYSES

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PCBs	Metals																	
1. O1AMLA29SL	8/2/01 1810	X	X																	
2. O1AMLA30SL	8/2/01 1815	X	X																	
3. O1AMLA42SL	8/2/01 1818	X	X																	
4. O1AMLA26SL	8/2/01 1825	X	X																	
5. O1AMLA36SL	8/2/01 1835	X	X																	
6. O1AMLA45SL	8/2/01 1845	X	X																	
7. O1AMLA31SL	8/2/01 1854	X	X																	
8. O1AMLA35SL	8/2/01 1845	X	X																	
9.																				
10.																				
11.																				
12.																				
13.																				
14.																				
15.																				

### TURNAROUND REQUEST in Business Days\*

Organic & Inorganic Analyses  
10 7 5 4 3 2 1 <1

STD. Petroleum Hydrocarbon Analyses

5 4 3 2 1 <1

STD.

Please Specify

OTHER

\*Turnaround Requests less than standard may incur Rush Charges.

MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA WO ID
S	2		
S	2		
S	2		
S	2		
S	2		
S	2	"four-five es-el"	
S	2		
S	2		

RELINQUISHED BY: Kyle Petersen

PRINT NAME: Kyle Petersen

FIRM: BRISTOL

DATE: 8/2/01

TIME: 2031

RECEIVED BY: Craig Bradlee

PRINT NAME: Craig Bradlee FIRM:

DATE: 8/2/01

TIME: 2031

RELINQUISHED BY:

PRINT NAME:

FIRM:

DATE:

TIME:

RECEIVED BY:

PRINT NAME:

FIRM:

DATE:

TIME:

ADDITIONAL REMARKS:

TEMP: 10.5°C



**Seattle** 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-9223  
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541.383.9310 fax 541.382.7588

7 December, 2001

Anne Kranawetter  
Bristol Environmental & Engineering  
2000 W International Airport C#1  
Anchorage, AK 99502-1116

RE: Amchitka

Enclosed are the results of analyses for samples received by the laboratory on 08/02/01 20:31. If you have any questions concerning this report, please feel free to contact me.

This report was recreated from a previously issued final report in order to provide an electronic copy. The final report used for these electronic copies may have been previously issued as an amended report due to client requested changes to sample names, etc. No data has changed since submission of the previously issued final, or amended, report.

Sincerely,

Stephen Wilson  
Environmental Group Leader

Work Orders included in this report:

**M108005**



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Bristol Environmental & Engineering  
2000 W International Airport C#1  
Anchorage, AK 99502-1116

Project: Amchitka  
Project Number: 21090  
Project Manager: Anne Kranawetter

**Reported:**  
08/13/01 17:48

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
01AMLA29SL	M108005-01	Soil	08/02/01 18:10	08/02/01 20:31
01AMLA30SL	M108005-02	Soil	08/02/01 18:15	08/02/01 20:31
01AMLA42SL	M108005-03	Soil	08/02/01 18:18	08/02/01 20:31
01AMLA26SL	M108005-04	Soil	08/02/01 18:25	08/02/01 20:31
01AMLA36SL	M108005-05	Soil	08/02/01 18:35	08/02/01 20:31
01AMLA31SL	M108005-06	Soil	08/02/01 18:54	08/02/01 20:31
01AMLA35SL	M108005-07	Soil	08/02/01 18:45	08/02/01 20:31

C. O. C. # 215

North Creek Analytical - Mobile Lab

Stephen Wilson, Environmental Group Leader

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

**North Creek Analytical, Inc.**  
**Environmental Laboratory Network**

1 of 9



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Project: Amchitka  
Project Number: 21090  
Project Manager: Anne Kranawetter

**Reported:**  
08/13/01 17:48

**Polychlorinated Biphenyls per EPA Method 8082**  
**North Creek Analytical - Mobile Lab**

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
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**01AMLA29SL (M108005-01) Soil**

Sampled: 08/02/01 Received: 08/02/01

Aroclor 1016	ND	145	ug/kg dry	1	EPA 8082	08/03/01	08/04/01	0108009	
Aroclor 1221	ND	290	"	"	"	"	"	"	
Aroclor 1232	ND	145	"	"	"	"	"	"	
Aroclor 1242	ND	145	"	"	"	"	"	"	
Aroclor 1248	ND	145	"	"	"	"	"	"	
Aroclor 1254	ND	145	"	"	"	"	"	"	
Aroclor 1260	ND	145	"	"	"	"	"	"	
Surr: 2,4,5,6-Tetrachloro-m-xylene	84.0 %	55-130							
Surr: Decachlorobiphenyl	63.7 %	55-130							

**01AMLA30SL (M108005-02) Soil**

Sampled: 08/02/01 Received: 08/02/01

Aroclor 1016	ND	147	ug/kg dry	1	EPA 8082	08/03/01	08/04/01	0108009	
Aroclor 1221	ND	294	"	"	"	"	"	"	
Aroclor 1232	ND	147	"	"	"	"	"	"	
Aroclor 1242	ND	147	"	"	"	"	"	"	
Aroclor 1248	ND	147	"	"	"	"	"	"	
Aroclor 1254	ND	147	"	"	"	"	"	"	
Aroclor 1260	ND	147	"	"	"	"	"	"	
Surr: 2,4,5,6-Tetrachloro-m-xylene	64.3 %	55-130							
Surr: Decachlorobiphenyl	43.5 %	55-130							S-07

**01AMLA42SL (M108005-03) Soil**

Sampled: 08/02/01 Received: 08/02/01

Aroclor 1016	ND	147	ug/kg dry	1	EPA 8082	08/03/01	08/04/01	0108009	
Aroclor 1221	ND	295	"	"	"	"	"	"	
Aroclor 1232	ND	147	"	"	"	"	"	"	
Aroclor 1242	ND	147	"	"	"	"	"	"	
Aroclor 1248	ND	147	"	"	"	"	"	"	
Aroclor 1254	ND	147	"	"	"	"	"	"	
Aroclor 1260	ND	147	"	"	"	"	"	"	
Surr: 2,4,5,6-Tetrachloro-m-xylene	99.1 %	55-130							
Surr: Decachlorobiphenyl	75.6 %	55-130							

North Creek Analytical - Mobile Lab

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Bristol Environmental & Engineering  
2000 W International Airport C#1  
Anchorage, AK 99502-1116

Project: Amchitka  
Project Number: 21090  
Project Manager: Anne Kranawetter

**Reported:**  
08/13/01 17:48

**Polychlorinated Biphenyls per EPA Method 8082**  
**North Creek Analytical - Mobile Lab**

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
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**01AMLA26SL (M108005-04) Soil**

Sampled: 08/02/01 Received: 08/02/01

Aroclor 1016	ND	147	ug/kg dry	1	EPA 8082	08/03/01	08/04/01	0108009	
Aroclor 1221	ND	294	"	"	"	"	"	"	
Aroclor 1232	ND	147	"	"	"	"	"	"	
Aroclor 1242	ND	147	"	"	"	"	"	"	
Aroclor 1248	ND	147	"	"	"	"	"	"	
Aroclor 1254	ND	147	"	"	"	"	"	"	
Aroclor 1260	ND	147	"	"	"	"	"	"	

*Surr: 2,4,5,6-Tetrachloro-m-xylene*

90.3 % 55-130

*Surr: Decachlorobiphenyl*

68.7 % 55-130

**01AMLA36SL (M108005-05) Soil**

Sampled: 08/02/01 Received: 08/02/01

Aroclor 1016	ND	148	ug/kg dry	1	EPA 8082	08/03/01	08/04/01	0108009	
Aroclor 1221	ND	295	"	"	"	"	"	"	
Aroclor 1232	ND	148	"	"	"	"	"	"	
Aroclor 1242	ND	148	"	"	"	"	"	"	
Aroclor 1248	ND	148	"	"	"	"	"	"	
Aroclor 1254	ND	148	"	"	"	"	"	"	
Aroclor 1260	ND	148	"	"	"	"	"	"	

*Surr: 2,4,5,6-Tetrachloro-m-xylene*

110 % 55-130

*Surr: Decachlorobiphenyl*

80.6 % 55-130

**01AMLA31SL (M108005-06) Soil**

Sampled: 08/02/01 Received: 08/02/01

Aroclor 1016	ND	146	ug/kg dry	1	EPA 8082	08/03/01	08/04/01	0108009	
Aroclor 1221	ND	293	"	"	"	"	"	"	
Aroclor 1232	ND	146	"	"	"	"	"	"	
Aroclor 1242	ND	146	"	"	"	"	"	"	
Aroclor 1248	ND	146	"	"	"	"	"	"	
Aroclor 1254	ND	146	"	"	"	"	"	"	
Aroclor 1260	ND	146	"	"	"	"	"	"	

*Surr: 2,4,5,6-Tetrachloro-m-xylene*

107 % 55-130

*Surr: Decachlorobiphenyl*

76.3 % 55-130

North Creek Analytical - Mobile Lab

Stephen Wilson, Environmental Group Leader

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Anchorage, AK 99502-1116

Project: Amchitka  
Project Number: 21090  
Project Manager: Anne Kranawetter

**Reported:**  
08/13/01 17:48

## Polychlorinated Biphenyls per EPA Method 8082

### North Creek Analytical - Mobile Lab

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
<b>01AMLA35SL (M108005-07) Soil</b>					Sampled: 08/02/01 Received: 08/02/01				
Aroclor 1016	ND	146	ug/kg dry	1	EPA 8082	08/03/01	08/04/01	0108009	
Aroclor 1221	ND	292	"	"	"	"	"	"	
Aroclor 1232	ND	146	"	"	"	"	"	"	
Aroclor 1242	ND	146	"	"	"	"	"	"	
Aroclor 1248	ND	146	"	"	"	"	"	"	
Aroclor 1254	ND	146	"	"	"	"	"	"	
Aroclor 1260	ND	146	"	"	"	"	"	"	
Surr: 2,4,5,6-Tetrachloro-m-xylene	76.5 %	55-130							
Surr: Decachlorobiphenyl	58.5 %	55-130							

North Creek Analytical - Mobile Lab

Stephen Wilson, Environmental Group Leader

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2000 W International Airport C#1  
Anchorage, AK 99502-1116

Project: Amchitka  
Project Number: 21090  
Project Manager: Anne Kranawetter

**Reported:**  
08/13/01 17:48

**Total Metals per EPA 6000/7000 Series Methods**  
**North Creek Analytical - Mobile Lab**

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
<b>01AMLA29SL (M108005-01) Soil</b>					Sampled: 08/02/01 Received: 08/02/01				
Mercury	ND	0.00441	mg/kg dry	1	EPA 1631	08/05/01	08/07/01	0108016	
<b>01AMLA30SL (M108005-02) Soil</b>					Sampled: 08/02/01 Received: 08/02/01				
Mercury	ND	0.00451	mg/kg dry	1	EPA 1631	08/05/01	08/07/01	0108016	
<b>01AMLA42SL (M108005-03) Soil</b>					Sampled: 08/02/01 Received: 08/02/01				
Mercury	ND	0.00500	mg/kg dry	1	EPA 1631	08/05/01	08/07/01	0108016	
<b>01AMLA26SL (M108005-04) Soil</b>					Sampled: 08/02/01 Received: 08/02/01				
Mercury	<b>0.00564</b>	0.00500	mg/kg dry	1	EPA 1631	08/05/01	08/07/01	0108016	
<b>01AMLA36SL (M108005-05) Soil</b>					Sampled: 08/02/01 Received: 08/02/01				
Mercury	<b>0.0103</b>	0.00500	mg/kg dry	1	EPA 1631	08/05/01	08/07/01	0108016	
<b>01AMLA31SL (M108005-06) Soil</b>					Sampled: 08/02/01 Received: 08/02/01				
Mercury	<b>0.00876</b>	0.00500	mg/kg dry	1	EPA 1631	08/05/01	08/07/01	0108016	
<b>01AMLA35SL (M108005-07) Soil</b>					Sampled: 08/02/01 Received: 08/02/01				
Mercury	ND	0.00500	mg/kg dry	1	EPA 1631	08/05/01	08/07/01	0108016	

North Creek Analytical - Mobile Lab

Stephen Wilson, Environmental Group Leader

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Bristol Environmental & Engineering  
2000 W International Airport C#1  
Anchorage, AK 99502-1116

Project: Amchitka  
Project Number: 21090  
Project Manager: Anne Kranawetter

**Reported:**  
08/13/01 17:48

**Physical Parameters per APHA/ASTM/EPA Methods**  
**North Creek Analytical - Mobile Lab**

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
<b>01AMLA29SL (M108005-01) Soil</b>					Sampled: 08/02/01 Received: 08/02/01				
% Solids	75.5	0.0100 % by Weight		1	Gravimetric	08/03/01	08/04/01	0108010	
<b>01AMLA30SL (M108005-02) Soil</b>					Sampled: 08/02/01 Received: 08/02/01				
% Solids	76.7	0.0100 % by Weight		1	Gravimetric	08/03/01	08/04/01	0108010	
<b>01AMLA42SL (M108005-03) Soil</b>					Sampled: 08/02/01 Received: 08/02/01				
% Solids	83.6	0.0100 % by Weight		1	Gravimetric	08/03/01	08/04/01	0108010	
<b>01AMLA26SL (M108005-04) Soil</b>					Sampled: 08/02/01 Received: 08/02/01				
% Solids	75.5	0.0100 % by Weight		1	Gravimetric	08/03/01	08/04/01	0108010	
<b>01AMLA36SL (M108005-05) Soil</b>					Sampled: 08/02/01 Received: 08/02/01				
% Solids	76.1	0.0100 % by Weight		1	Gravimetric	08/03/01	08/04/01	0108010	
<b>01AMLA31SL (M108005-06) Soil</b>					Sampled: 08/02/01 Received: 08/02/01				
% Solids	77.0	0.0100 % by Weight		1	Gravimetric	08/03/01	08/04/01	0108010	
<b>01AMLA35SL (M108005-07) Soil</b>					Sampled: 08/02/01 Received: 08/02/01				
% Solids	74.8	0.0100 % by Weight		1	Gravimetric	08/03/01	08/04/01	0108010	

North Creek Analytical - Mobile Lab

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Project: Amchitka  
Project Number: 21090  
Project Manager: Anne Kranawetter

**Reported:**  
08/13/01 17:48

### Polychlorinated Biphenyls per EPA Method 8082 - Quality Control

#### North Creek Analytical - Mobile Lab

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 0108009 - 3545 ASE

##### Blank (0108009-BLK1)

Prepared & Analyzed: 08/03/01

Aroclor 1016	ND	150	ug/kg wet
Aroclor 1221	ND	301	"
Aroclor 1232	ND	150	"
Aroclor 1242	ND	150	"
Aroclor 1248	ND	150	"
Aroclor 1254	ND	150	"
Aroclor 1260	ND	150	"

Surr: 2,4,5,6-Tetrachloro-m-xylene	213	"	200	107	55-130
Surr: Decachlorobiphenyl	184	"	200	92.0	55-130

##### LCS (0108009-BS1)

Prepared & Analyzed: 08/03/01

Aroclor 1254	837	150 ug/kg wet	833	100	55-130
Surr: 2,4,5,6-Tetrachloro-m-xylene	220	"	200	110	55-130
Surr: Decachlorobiphenyl	186	"	200	93.0	55-130

##### Matrix Spike (0108009-MS1)

Source: M108005-01

Prepared: 08/03/01 Analyzed: 08/04/01

Aroclor 1254	1220	167	ug/kg dry	1270	ND	96.1	55-130
Surr: 2,4,5,6-Tetrachloro-m-xylene	318		"	305		104	55-130
Surr: Decachlorobiphenyl	247		"	305		81.0	55-130

##### Matrix Spike Dup (0108009-MSD1)

Source: M108005-01

Prepared: 08/03/01 Analyzed: 08/04/01

**Q-01**

Aroclor 1254	618	167	ug/kg dry	1270	ND	48.7	55-130	65.5	40
Surr: 2,4,5,6-Tetrachloro-m-xylene	163	"		305		53.4	55-130		
Surr: Decachlorobiphenyl	114	"		305		37.4	55-130		

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Bristol Environmental & Engineering 2000 W International Airport C#1 Anchorage, AK 99502-1116	Project: Amchitka Project Number: 21090 Project Manager: Anne Kranawetter	<b>Reported:</b> 08/13/01 17:48
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### Total Metals per EPA 6000/7000 Series Methods - Quality Control

#### North Creek Analytical - Mobile Lab

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 0108016 - EPA 1631

<b>Blank (0108016-BLK1)</b>				Prepared: 08/05/01 Analyzed: 08/07/01					
Mercury	ND	0.00500	mg/kg wet						
<b>LCS (0108016-BS1)</b>				Prepared: 08/05/01 Analyzed: 08/07/01					
Mercury	0.0101	0.00500	mg/kg wet	0.0100		101	85-115		
<b>Duplicate (0108016-DUP1)</b>				<b>Source: M107061-01</b>		Prepared: 08/05/01 Analyzed: 08/07/01		<b>Q-06</b>	
Mercury	0.0167	0.00500	mg/kg dry		0.0105		45.6	20	
<b>Matrix Spike (0108016-MS1)</b>				<b>Source: M107061-01</b>		Prepared: 08/05/01 Analyzed: 08/07/01		<b>Q-01</b>	
Mercury	0.0306	0.00500	mg/kg dry	0.0133	0.0105	151	75-125		
<b>Matrix Spike (0108016-MS2)</b>				<b>Source: M107061-02</b>		Prepared: 08/05/01 Analyzed: 08/07/01		<b>Q-01</b>	
Mercury	0.0249	0.00500	mg/kg dry	0.0130	ND	163	75-125		

North Creek Analytical - Mobile Lab

Stephen Wilson, Environmental Group Leader

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

**North Creek Analytical, Inc.**  
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Bristol Environmental & Engineering  
2000 W International Airport C#1  
Anchorage, AK 99502-1116

Project: Amchitka  
Project Number: 21090  
Project Manager: Anne Kranawetter

**Reported:**  
08/13/01 17:48

### Notes and Definitions

Q-01 The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.

Q-06 Analyses are not controlled on RPD values from sample concentrations less than 5 times the reporting limit.

S-07 Surrogate recovery is out of control limits. QA criteria are met when one surrogate is within control limits.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis. MRLs are adjusted if %Solids are less than 50%.

wet Sample results reported on a wet weight basis (as received)

RPD Relative Percent Difference

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### Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
			Report recreated from: \\sisters\elmnt\Report\M108005 FINAL 08 13 01 1748.mdb Default Report (not modified)
0108009-MSD1	8082 PCB		Q-01
0108009-MSD1	8082 PCB	Aroclor 1254	Exceeds RPD limit
0108009-MSD1	8082 PCB	Decachlorobiphenyl	Exceeds lower control limit
0108009-MSD1	8082 PCB	Aroclor 1254	Exceeds lower control limit
0108009-MSD1	8082 PCB	2,4,5,6-Tetrachloro-m-xylene	Exceeds lower control limit
0108016-DUP1	Hg Total CVAf 1631		Q-06
0108016-DUP1	Hg Total CVAf 1631	Mercury	Exceeds RPD limit
0108016-MS1	Hg Total CVAf 1631		Q-01
0108016-MS1	Hg Total CVAf 1631	Mercury	Exceeds upper control limit
0108016-MS2	Hg Total CVAf 1631		Q-01
0108016-MS2	Hg Total CVAf 1631	Mercury	Exceeds upper control limit
M108005-02	8082 PCB	Decachlorobiphenyl	S-07
M108005-02	8082 PCB	Decachlorobiphenyl	Exceeds lower control limit